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10/763,045	01/21/2004	Heinrich Schenk	1890-0045	3788

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EXAMINER	
DO, CHAT C	

ART UNIT	PAPER NUMBER
2193	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

MN

Office Action Summary	Application No.	Applicant(s)
	10/763,045	SCHENK, HEINRICH
	Examiner	Art Unit
	Chat C. Do	2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-28,30-45 and 47-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-28,30-39, 41-45 and 47-50* is/are rejected.

7)☒ Claim(s) *40* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to Amendment filed 10/12/2007.

2. Claims 26-28, 30-45, and 47-50 are pending in this application. Claims 26, 36, and 45 are independent claims. In Amendment, claims 1-25, 29, and 46 are previously and currently cancelled. This Office Action is made final.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 26-28, 30-39, 41-45, and 47-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Schenk (D.E. 19850642).

Re claim 26, Schenk discloses in Figures 1-3 a method for processing a discrete-time signal formed by temporally consecutive signal values of a signal vector (e.g. abstract in page 13 and summary of invention line 61 col. 1 to line 15 col. 2), providing a signal vector (e.g. as signal Yx input into Crest-Factor Reduction 20 in Figure 3); determining at least one correction vector as a function of the signal vector (e.g. col. 2 lines 25-45 wherein delta y_1 and y_2 are the correction vectors in cols. 5-6), the at least correction vector defining a signal having an envelope curve (e.g. as outer signal cover of

the correction vector), the envelope curve having at least one local extreme value (e.g. Figure 3 as inherently exist to stabilize the system), wherein determining the at least one correction vector (e.g. delta y_1 and y_2 in cols. 5-6) further comprises multiplying a base correction vector (e.g. computation from delta(y_{1k}) as seen in col. 5) by a window function (e.g. all ones column in col. 5 lines 35-47 and col. 2 lines 25-42 and example in cols. 5-7 wherein the base correction vector is seen in col. 6 lines 45-57), adding the at least one correction vector to the signal vector (e.g. abstract page 13 and lines 1-20 col. 2); and transmitting the signal vector with the at least one added correction vector (e.g. Figure 1).

Re claim 27, Schenk further discloses in Figures 1-3 the envelope curve has at least one local maximum (e.g. inherently exist to stabilize the system).

Re claim 28 Schenk further discloses in Figures 1-3 the envelope curve has at least one local minimum (e.g. inherently exist to stabilize the system).

Re claim 30, Schenk further discloses in Figures 1-3 the window function has at least one window area of consecutive elements (e.g. col. 5 lines 10-25) in which the values of the window function differ from zero (e.g. cols. 5-6 with values of delta y_{1k} and delta y_{2k}), and wherein the values of the window function outside the at least one window area are zero (e.g. non affected window and Figure 2).

Re claim 31, Schenk further discloses in Figures 1-3 a window area interrupted by a first end of the correction vector is continued at the other second end of the correction vector (e.g. col. 2 lines 42-65 and col. 4 lines 1-6).

Re claim 32, Schenk further discloses in Figures 1-3 the window function comprises one of a group consisting of a rectangular window (e.g. col. 5 lines 10-25 as rectangular window with single column matrix of element), a triangular window, a Von-Hann window, a Gauss window, a Hamming window or a Blackman window.

Re claim 33, Schenk further discloses in Figures 1-3 at least one window area of the window function is arranged with respect to the temporal sequence of elements of the correction vector (e.g. col. 5 lines 10-25 with consecutive sequence elements y_1-y_8) such that a maximum value of the signal vector lies within the window area (e.g. max value is $y_6 = 12$ as seen in col. 5 lines 10-45).

Re claim 34, Schenk further discloses in Figures 1-3 the base correction vector only contains frequency components which lie in the frequency band from zero to half the sampling frequency of the signal vector (e.g. col. 5 lines 1-10).

Re claim 35, Schenk further discloses in Figures 1-3 the elements of the base correction vector alternatively adopt one of two values (e.g. either 1 or –1 as seen in cols. 5-6).

Re claim 36, Schenk further discloses in Figures 1-3 a method for processing a discrete-time signal formed by temporally consecutive signal values of a signal vector (e.g. abstract in page 13 and summary of invention line 61 col. 1 to line 15 col. 2), providing a signal vector (e.g. as signal Yx input into Crest-Factor Reduction 20 in Figure 3); determining at least one correction vector as a function of the signal vector (e.g. col. 2 lines 25-45 wherein delta y_{1k} and y_{2k} are the correction vectors), the at least correction vector defining a signal having an envelope curve (e.g. as outer signal cover of

the correction vector), the envelope curve having at least one local extreme value (e.g. Figure 3 as inherently exist to stabilize the system), adding the at least one correction vector to the signal vector (e.g. abstract page 13 and lines 1-20 col. 2); and transmitting the signal vector with the at least one added correction vector (e.g. Figure 1); wherein determining the at least one correction vector and adding the at least one correction vector further comprises determining a plurality of correction vectors (e.g. delta(y_{1k}) and delta(y_{2k}) in col. 4 and cols. 5-6) such that the envelope curves of signals described by the correction vectors have different local extreme values (e.g. col. 5 lines 10 at different band/spectrum frequency).

Re claim 37, Schenk further discloses in Figures 1-3 after a first addition of a first correction vector to the signal vector (e.g. as delta y_{1k} as seen in col. 5), a subsequent correction vector is determined as a function of a total vector produced by the first addition (e.g. as delta y_{2k} as seen in col. 6).

Re claim 38, Schenk further discloses in Figures 1-3 steps of determining and adding the at least one correction vector further comprise: dividing the signal vector into at least two part signal vectors in a cyclically alternating manner (e.g. as input into component for reduction 20 in Figure 3); calculating at least one correction vector for each part signal vector (e.g. computing each delta for each input signal); adding the at least one correction vector for each part signal vector to the respective part signal vector (e.g. abstract page 13 and lines 1-15 col. 2); and recombining the part signal vectors (e.g. Figure 3 with component 5).

Re claim 49, it has similar limitations cited in claim 34. Thus, claim 49 is also rejected under the same rationale as cited in the rejection of rejected claim 34.

Re claim 50, it is a signal processor of claim 45. Thus, claim 50 is also rejected under the same rationale as cited in the rejection of rejected claim 45.

Allowable Subject Matter

5. Claim 40 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

a. The applicant argues in page 15 for claim 26 rejected under 35 U.S.C. 102(b) that the cited reference by Schenk fails to disclose a step of determining the at least one correction vector further comprises multiplying a base correction vector by a window function.

The examiner respectfully submits that this step/limitation is clearly and expressively seen in the foreign document by Schenk without translation, particularly columns 4-5. As you can see from these columns, the correction vector (e.g. delta($y_{1/2}$)) is computed by multiplying a function corrector (e.g. delta($y_{1/2k}$) in lines 30 col. 5 or line 40 col. 6) with a base correction vector (e.g.

Re claim 39, Schenk further discloses in Figures 1-3 the base correction vector includes a plurality of elements, each element being determined using the largest element and the smallest element of the elements of the signal vector (e.g. cols. 5-6).

Re claim 41, Schenk further discloses in Figures 1-3 lengthening the signal vector at a first end by adding at least one element of the signal vector from a opposing second end of the signal vector (e.g. Figure 3).

Re claim 42, Schenk further discloses in Figures 1-3 the at least one correction vector is lengthened at a first end of the correction vector by adding at least one consecutive element of the correction vector starting at an opposing second end of the correction vector, such that the correction vector and the signal vector are lengthened by the same number of elements (e.g. Figure 3 wherein M=N).

Re claim 43, Schenk further discloses in Figures 1-3 providing the signal vector by performing an inverse Fourier transformation on an input signal (e.g. by component IFFT 4 in Figure 3).

Re claim 44, Schenk further discloses in Figures 1-3 the input signal comprises a discrete multitone modulated frequency domain signal (e.g. line 60 col. 2 to line 5 col. 3).

Re claim 45, it has similar limitations cited in claim 43. Thus, claim 45 is also rejected under the same rationale as cited in the rejection of rejected claim 43.

Re claim 47, it has similar limitations cited in claim 30. Thus, claim 47 is also rejected under the same rationale as cited in the rejection of rejected claim 30.

Re claim 48, it has similar limitations cited in claim 33. Thus, claim 48 is also rejected under the same rationale as cited in the rejection of rejected claim 33.

all ones vector in delta(y_1) or interleave sign ones vector in delta(y_2)) wherein the function corrector is not a constant, but rather it is computed directly from a function in term of utilizing the initial signal window size as seen in line 30 col. 5 or line 40 col. 6.

b. The applicant argues in pages 16-17 for claim 36 rejected under 35 U.S.C. 102(b) that the cited reference by Schenk fails to disclose a plurality of correction vectors having different local extreme values since the correction vectors are constant.

The examiner respectfully submits that the cited reference by Schenk clearly disclose multiple correction vectors as delta(y_1) and delta(y_2) wherein each one of delta(y_1) and delta(y_2) has different local extreme in term of vector itself and respective to the input signal.

c. The applicant argues in page 17 last paragraph for claim 45 rejected under 35 U.S.C. 102(b) that the cited reference by Schenk fails to disclose a step of determining the at least one correction vector further comprises multiplying a base correction vector by a window function.

The examiner respectfully submits that this step/limitation is clearly and expressively seen in the foreign document by Schenk without translation, particularly columns 4-5. As you can see from these columns, the correction vector (e.g. delta($y_{1/2}$)) is computed by multiplying a function corrector (e.g. delta($y_{1/2k}$) in lines 30 col. 5 or line 40 col. 6) with a base correction vector (e.g.

all ones vector in delta(y_1) or interleave sign ones vector in delta(y_2)) wherein the function corrector is not a constant, but rather it is computed directly from a function in term of utilizing the initial signal window size as seen in line 30 col. 5 or line 40 col. 6.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2193

November 24, 2007